[Chem. Pharm. Bull., **43**, 2243-2245 (1995)] [Lab. of Pharm. Synthetic Chemistry]

Catalytic Activity of Isoborneol-Derived Sulfides in Asymmetric Addition of Diethylzinc to Benzaldehyde.

YOSHITUGU ARAI*, NAOYA NAGATA, YUKIO MASAKI

Enantioselective addition of diethylzinc to benzaldehyde in the presence of easily available β-hydroxysulfides was investigated. The use of a catalytic amount of the sulfides gave (*S*)-1-phenylpropanol in excellent yield with high enantioselectivity, ranging from 85 to 88% ee.

[J. Chem. Soc., Perkin Trans. 1, **1995**, 2913-2917] [Lab. of Pharm. Synthetic Chemistry]

Diastereoselective Allylation of Chiral Sulfinyl-substituted Thiophenecarbaldehydes with a Lewis Acid.

YOSHITUGU ARAI*, ATSUKO SUZUKI, TSUTOMU MASUDA, YUKIO MASAKI, MOTOO SHIRO

Diastereoselective allylation of the optically active sulfinyl-substituted thiophenecarbaldehydes with allyltriphenylstannane in the presence of a Lewis acid has been examined. Allylation of the two aldehydes in the presence of titanium(IV) tetrachloride produced the addition products, respectively, with good diastereoisomeric excesses (de's), whereas in the presence of tin(IV) tetrachloride the corresponding diastereoisomers, respectively, were obtained. Allylation of the aldehyde mediated by ytterbium triflate occurred with excellent diastereoselectivity (96% de) in a manner similar to the reaction using titanium(IV) tetrachloride.

[Polymer J., **27**, 251-255 (1995)] [Lab. of Pharm. Physical Chemistry]

Electron Spin Resonance Study on Plasma-Induced Surface Radicals of Ethylene-Tetrafluoroethylene Copolymer.

MASAYUKI KUZUYA*, JUNJI NIWA, TADASHI NOGUCHI

We have undertaken Ar plasma irradiation on ethylene-tetrafluoroethylene alternating copolymer (ETFE) powder, and the radicals formed were studied by electron spin resonance (ESR). The room temperature ESR spectrum of plasma-irradiated ETFE shows a six-line spectrum (sextet) similar to that of polyethylene (PE), due to a small difference in hyperfine splitting constant between β-H and β-F atom. Thus, the major radical formed was assigned to the midchain alkyl radical generated by hydrogen elimination. It was also found that the sextet spectrum gradually turned toward a broad single-line spectrum as the plasma duration increased indicating the successive formation of dangling bond sites (DBS) due to the occurrence of cross-linked surface reaction.